

HERPETOLOGY.—*Contributions to the herpetology of Virginia, 3: The herpetofauna of Accomac and Northampton Counties, Va.* CLYDE F. REED, Baltimore, Md. (Communicated by Doris M. Cochran.)

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The southernmost area of the Delmarva Peninsula consists of two counties of Virginia, Accomac, the more northern, and Northampton, the more southern. Both are isolated from the mainland of Virginia by the lower Chesapeake Bay.

The herpetofauna as well as the flora indicates that these counties have had some land connections in the past with southeastern Virginia. Many plants in this region range from coastal Florida and Georgia, northward through the Carolinas to southeastern Virginia, and then find their northern limit on the Delmarva Peninsula; these same plants are totally absent west of the Chesapeake Bay in Maryland. Most notable of the plants having the foresaid distribution are: *Baptisia alba*, *Callicarpa americana*, *Smilax bona-vox*, *Zanthoxylum clava-herculis*, *Bignonia capreolata*, *Tillandsia usneoides*, *Trillium pusillum* var. *virginianum*, *Smilax laurifolia*, *Berchemia scandens*, *Vitis rotundifolia*, *Symplocos tinctoria*, and *Passiflora incarnata*. The herptiles having a similar distribution from the south on Delmarva are: *Hyla cinerea* (see Reed, Journ. Washington Acad. Sci. **46**(10): 328-332. 1956), *Scaphiopus holbrooki* (see Reed, Herpetologica **12**(4): 295. 1956), *Eumeces laticeps*, *Sceloporus undulatus hyacinthinus*, *Lygosoma laterale*, *Diadophis punctatus punctatus*, *Lampropeltis getulus getulus*, *Natrix erythrogaster* (see Conant, Herpetologica **2**(5): 83-86. 1943), *Pseudemys rubriventris* and *Malaclemys terrapin*.

On the other hand, Delmarva-Virginia is terrestrially attached firmly to the larger land mass to the north, which in turn is continuous with the Piedmont Region of Maryland, Delaware and Pennsylvania. As a result of this land continuity, many Piedmont species of plants and animals have taken up residence on the Delmarva Peninsula; both have migrated the whole length of the peninsula, but it is interesting to note that both have become localized together.

About 150 species of Piedmont species of plants are known from various areas on the peninsula; these have been discussed in detail in a botanical paper, The Piedmont Flora of the Delmarva Peninsula, by the author. The herpetofauna of the Delmarva Peninsula has been annotated in detail in Contribution 13 to the Herpetology of Maryland and Delmarva, published by the author. Most notable of the Piedmont herpetofauna found in Accomac and Northampton Counties, Virginia are: *Bufo terrestris americana*, *Diemictylus viridescens viridescens*, *Eurycea bislineata bislineata*, and *Haldea valeriae*. Other Piedmont herptiles found on Coastal Delmarva in other Piedmont areas are: *Hemidactylium scutatum*, *Clemmys insculpta*, *Natrix septemvittata*, *Desmognathus fuscus fuscus*, *Pseudotriton ruber ruber*, *Rana sylvatica sylvatica*, *Storeria dekayi dekayi*, *Storeria o. occipitamaculata*. Many of these Piedmont herptiles have also been collected in Southern Maryland and on Northern Neck, Virginia (see Reed, Journ. Washington Acad. Sci. **47**(1). 1957).

There are 38 species of herptiles definitely known from Accomac and Northampton Counties, Virginia. Four of these species are Piedmont in distribution otherwise and are quite removed from the nearest next area of distribution. Many of the species show definite affiliations with species of more southern distributions.

In addition to the papers mentioned above, the following articles provide published records of herptiles from Accomac and Northampton Counties. In the following annotated check list of the herptiles for these two counties of Virginia, these publications will be referred to by date only. Dunn, E. R. (A preliminary list of the reptiles and amphibians of Virginia), Copeia 1918, no. 53: 16-27. Brady, M. K. (Notes on the Herpetology of Hog Island (Va.)), Copeia 1925, no. 136: 110-111. Fowler, H. W.

(Records of amphibians and reptiles from Virginia), Copeia 1925, no. 146: 65-67. Conant, Roger (An annotated check list of the amphibians and reptiles of the Del-Mar-Va Peninsula), Publ. Soc. Nat. Hist. Delaware, pp. 1-8. 1945.

The specimens in the United States National Museum have been seen and records for those specimens are cited below. I wish to thank Dr. Doris M. Cochran for allowing me to study these specimens. New or additional records have been obtained by the author in his many trips to this region in the past five years. These are also cited below along with citations of the records previously published by other responsible herpetologists.

1. *Scaphiopus holbrooki holbrooki* (Harlan): Spadefoot toad. ACCOMAC COUNTY: Conant, 1945; Reed, *Herpetologica* 12(4): 295. 1956.

2. *Bufo woodhousei fouleri* Hinkley: Fowler's toad. ACCOMAC COUNTY: Chincoteague, Fowler, 1925; Wachaprague. July 9, 1956, *Reed* 1143-48; Chincoteague Island (U.S.N.M. 61733-41). NORTHAMPTON COUNTY: north of Cape Charles, Oct. 22, 1955, *Reed* 1059; Smith Island (U.S.N.M. 40227-41); ACCOMAC AND NORTHAMPTON COUNTIES: Dunn, 1918; Conant, 1945.

3. *Bufo terrestris americanus* Holbrook: American toad. ACCOMAC COUNTY: Conant, 1945, northern part of county. NORTHAMPTON COUNTY: Hog Island, Brady, 1925.

4. *Acris gryllus gryllus* (LeConte) and *A. g. crepitans* Baird: Cricket frogs. ACCOMAC COUNTY: Dunn, 1918; Locustville, Fowler, 1945; Conant, 1945. NORTHAMPTON COUNTY: Conant, 1945.

5. *Hyla cinerea* (Schneider): Green tree frog. ACCOMAC COUNTY: 2 miles south of Oak Hall, July 9, 1956, *Reed* 1107. See Reed, *Jour. Washington Acad. Sci.* 46(10): 328-332. 1956. NORTHAMPTON COUNTY: Conant, 1945.

6. *Hyla crucifer crucifer* Wied: Spring peeper. ACCOMAC AND NORTHAMPTON COUNTIES: Conant, 1945.

7. *Hyla versicolor versicolor* LeConte: Common tree frog. ACCOMAC COUNTY: Wachaprague, July 9, 1956, *Reed* 1136-1142; 2 miles south of Oak Hall, July 9, 1956, *Reed* 1108. NORTHAMPTON COUNTY: Conant, 1945.

8. *Pseudacris nigrita feriarum* (Baird): Upland chorus frog. ACCOMAC AND NORTHAMPTON COUNTIES: Conant, 1945, as *P. n. triseriata* (Wied).

9. *Rana catesbeiana* Shaw: Bullfrog. ACCOMAC COUNTY: Dunn, 1918; Locustville, Fowler, 1925; Conant, 1945.

10. *Rana clamitans* Latreille: Green frog.

ACCOMAC COUNTY: Dunn, 1918; Wallops Island and Locustville, Fowler, 1925; ACCOMAC AND NORTHAMPTON COUNTIES: Conant, 1945.

11. *Rana pipiens pipiens* Schreber: Leopard frog. ACCOMAC COUNTY: Chincoteague and Assateague, Fowler, 1925; ACCOMAC AND NORTHAMPTON COUNTIES: Dunn, 1918; Conant, 1945.

12. *Diemictylus viridescens viridescens* (Rafinesque): Newt or eft. NORTHAMPTON COUNTY: Cape Charles, Conant, 1945.

13. *Plethodon cinereus cinereus* (Green): Red-back or lead-back salamander. ACCOMAC COUNTY: Conant, 1945; woods near Silva, October 23, 1955, *Reed* 1060; under log south of Wattsville, April 22, 1956, *Reed* 1035-36.

14. *Eurycea bislineata bislineata* (Green): Two-lined salamander, NORTHAMPTON COUNTY: Eastville, Conant, 1945.

15. *Sceloporus undulatus hyacinthinus* (Green): Fence swift. ACCOMAC COUNTY: Wattsville, summer 1953, *Reed*; 6 miles north of Accomac (U.S.N.M. 129523). NORTHAMPTON COUNTY: Dunn, 1918; common on sands and in woods near Kiptopeke, August 1955, *Reed*. ACCOMAC AND NORTHAMPTON COUNTIES: Conant, 1945.

16. *Lygosoma laterale* (Say): Little brown skink. ACCOMAC COUNTY: Woods near Silva on road to Sinnickson, April 22, 1956, *Reed*; woods ½ mile east of Wattsville, female with egg, June 5, 1955, *Reed* 1017. NORTHAMPTON COUNTY: Dunn, 1918; Smith Island (U.S.N.M.).

17. *Natrix sipedon sipedon* (Linnaeus): Common water snake. ACCOMAC COUNTY: Locustville, Wallops Island, Fowler, 1925. NORTHAMPTON COUNTY: Hog Island, Brady, 1925. ACCOMAC AND NORTHAMPTON COUNTIES: Dunn, 1918; Conant, 1945.

18. *Thamnophis sauritus sauritus* (Linnaeus): Eastern ribbon snake. NORTHAMPTON COUNTY: Dunn, 1918; Conant, 1945.

19. *Haldea valeriae valeriae* (Baird and Girard): Eastern ground snake. ACCOMAC COUNTY: Woods near Silva, April 22, 1956, *Reed* 1037. NORTHAMPTON COUNTY: Dunn, 1918; Cobb's Island and Hog Island, Conant, 1945; Hog Island, Fowler, 1925.

20. *Heterodon platyrhinos platyrhinos* Latreille: Hog-nosed snake. ACCOMAC COUNTY: Locustville, Assateague, Wallops Island, Fowler, 1925. NORTHAMPTON COUNTY: Hog Island, Brady, 1925; ACCOMAC AND NORTHAMPTON COUNTIES: Dunn, 1918; Conant, 1945.

21. *Diadophis punctatus punctatus* (Linnaeus): Ring-necked snake. ACCOMAC COUNTY: Chincoteague Island (U.S.N.M. 107667); Conant, *Bull. Chicago Acad. Sci.* 7(10): 473-482. 1946.

22. *Coluber constrictor constrictor* Linnaeus: Black racer. ACCOMAC COUNTY: Locustville,

Assateague, Wallops Island, Fowler, 1925; NORTHAMPTON COUNTY: Hog Island, Brady, 1925; ACCOMAC AND NORTHAMPTON COUNTIES: Dunn, 1918; Conant, 1945.

23. *Ophedryx aestivus* (Linnaeus): Rough green snake. ACCOMAC COUNTY: Locustville, Wallops Island, Fowler, 1925. NORTHAMPTON COUNTY: Hog Island, Brady, 1925; ACCOMAC AND NORTHAMPTON COUNTIES: Dunn, 1918; Smiths Island, Conant, 1945.

24. *Elaphe obsoleta obsoleta* (Say): Pilot black snake. NORTHAMPTON COUNTY: Conant, 1945.

25. *Lampropeltis getulus getulus* (Linnaeus): King snake. ACCOMAC AND NORTHAMPTON COUNTIES: Cape Charles, Conant, 1945.

26. *Lampropeltis dolia temporalis* Cope: Coastal Plain milk snake. ACCOMAC COUNTY: Locustville, Wallops Island, Fowler, 1925.

27. *Ancistrodon contortrix mokeson* Daudin: Copperhead. ACCOMAC COUNTY: $\frac{1}{2}$ mile north of Cypress Branch on road to Onancock, July 1955. Illustrated in Onancock newspaper.

28. *Chelydra serpentina serpentina* (Linnaeus): Snapping turtle. ACCOMAC COUNTY: Locustville and Chincoteague, Fowler, 1925; Dunn, 1918. NORTHAMPTON COUNTY: Hog Island, Brady, 1925. ACCOMAC AND NORTHAMPTON COUNTIES: Conant, 1945.

29. *Kinosternon subrubrum subrubrum* (Lacordane): Mud turtle. ACCOMAC COUNTY: Locustville, Chincoteague, Wallops Island, Fowler, 1925; NORTHAMPTON COUNTY: Hog Island, Brady, 1925 (U.S.N.M. 67412-7 and 73256-9); Smiths Island (U.S.N.M. 99029 and 40225-6). ACCOMAC AND NORTHAMPTON COUNTIES: Dunn, 1918; Conant, 1945.

30. *Clemmys guttata* (Sehneider): Spotted turtle. ACCOMAC COUNTY: in pitcherplant bog near Wattsville, June 5, 1955, *Reed* 1016; Chincoteague, Fowler, 1925; Dunn, 1918. NORTHAMPTON COUNTY: Hog Island, Brady. (U.S.N.M. 73253-5). ACCOMAC AND NORTHAMPTON COUNTIES: Conant, 1945.

31. *Terrapin carolina carolina* (Linnaeus): Box turtle. ACCOMAC COUNTY: Woods near

Wattsville, June 5, 1955, *Reed*; Dunn, 1918. ACCOMAC AND NORTHAMPTON COUNTIES: Conant, 1945.

32. *Malaclemys terrapin terrapin* (Schoeppf): Diamondback turtle. ACCOMAC AND NORTHAMPTON COUNTIES: Conant, 1945. NORTHAMPTON COUNTY and Chesapeake Bay: Hog Island, Brady, 1925; Dunn, 1918. (Sometimes called *M. centrata concentrica*.)

33. *Chrysemys picta picta* (Sehneider): Painted turtle. ACCOMAC COUNTY: Dunn, 1918; Locustville and Chincoteague, Fowler, 1925. NORTHAMPTON COUNTY: Conant, 1945.

34. *Pseudemys rubriventris rubriventris* (LeConte): Red-bellied terrapin. ACCOMAC COUNTY: Dunn, 1918.

35. *Chelonia mydas mydas* (Linnaeus): Atlantic green turtle. NORTHAMPTON COUNTY: Hog Island (stranded on beach), Brady, 1925; mouth of Chesapeake Bay, January 25, 1893, *J. A. Bully* (U.S.N.M. 51212).

36. *Caretta caretta caretta* (Linnaeus): Loggerhead. NORTHAMPTON COUNTY: "Large numbers caught around Hog Island," Brady, 1925; Chesapeake Bay near Great Wicomico Light House, June 10, 1956, Capt. W. J. Biddlecomb, three specimens caught, one donated by Dr. Clyde F. Reed to the United States National Museum (no. 137572); two other specimens studied and let go.

37. *Dermochelys coriacea coriacea* (Linnaeus): Leatherback turtle. Chesapeake Bay off Great Wicomico Light House, May-June, 1952, Capt. W. J. Biddlecomb. Specimen illustrated in the Richmond News Leader, June 7, 1952, 700 lbs., 7 ft. long, 8 ft. flipper spread, *Reed*, Journ. Washington Acad. Sci. 47(1), 1957. ACCOMAC COUNTY: Parramore Island (*F. M. Uhler*); McCauley (The Reptiles of Maryland, 1945); Chesapeake Bay (U.S.N.M. 029492, bones).

38. *Lepidochelys olivacea kempfi* (Garman): Atlantic ridley. Chesapeake Bay off Great Wicomico Light House, June 10, 1956, Capt. W. J. Biddlecomb, specimen donated by Dr. Clyde F. Reed to the United States National Museum (no. 137573).

The basis of all knowledge is experiment; the very essence of experiments is exactness; and exactness can be obtained only by precise measurements.—J. T. SPRAGUE.